

The Balanced Scorecard and IT Governance

By Wim Van Grembergen, Ph.D.

The balanced scorecard (BSC) initially developed by Kaplan and Norton, is a performance management system that should allow enterprises to drive their strategies on measurement and follow-up. In recent years the BSC has been applied to information technology (IT) and currently the first real-life IT applications are starting to emerge. In this article, it is shown how the IT balanced scorecard (IT BSC) can be linked to the business balanced scorecard (BU BSC) and in this way support the IT/business governance and alignment processes.

Introduction

Kaplan and Norton (1992, 1993, 1996a, 1996b) have introduced the balanced scorecard at the enterprise level. Their basic idea is that the evaluation of an organization should not be restricted to a traditional financial evaluation but should be supplemented with measures concerning customer satisfaction, internal processes and the ability to innovate. These additional measures should assure future financial results and drive the organization towards its strategic goals while keeping all four perspectives in balance. They propose a three-layered structure for the four perspectives: mission (e.g., to become the customers' most preferred supplier), objectives (e.g., to provide the customers with new products) and measures (e.g., percentage of turnover generated by new products). The balanced scorecard can be applied to the IT function and its processes as Gold (1992, 1994) and Willcocks (1995) have conceptually described and has been further developed by Van Grembergen and Van Bruggen (1997) and Van Grembergen and Timmerman (1998).

In this article, we illustrate how a cascade of scorecards can be instrumental in the IT/business governance processes and how this hierarchy of scorecards can support the alignment of business and IT strategy. The IT Development BSC and the IT Operational BSC are introduced as enablers for the Strategic BSC that in turn is the enabler of the Business BSC.

IT governance

In their survey of corporate governance, Shleifer and Vishny (1997) state that "corporate governance deals with the ways in which suppliers of finance assure themselves of getting a return on their investment." They translate this definition into concrete questions: "How do the suppliers of finance get managers to return some of the profits to them?" "How do they (suppliers of finance) make sure that managers do not steal the capital they supply or invest in bad projects?" "How do suppliers of finance control managers?"

The same questions can be worded for IT:

- How do top management get their CIO and their IT organization to return some business value to them?
 - How do top management make sure that their CIO and their IT organization do not steal the capital they supply or invest in bad projects?
 - How do top management control their CIO and their IT organization?
- IT governance is part of corporate governance and has to provide mechanisms for IT councils, business alignment and implementation processes (Broadbent, 1998). IT governance can be defined as:

"The organizational capacity to control the formulation and implementation of IT strategy and guide to proper direction for the purpose of achieving competitive advantages for the corporation."

Hereafter, we will show that a methodology such as the Balanced Scorecard can provide a measurement and management system that supports the IT governance process and the IT/business alignment process through a cascade of a Business balanced scorecard and IT balanced scorecards for the major IT processes: defining IT strategy, developing systems and operating systems. Pucciarelli et al. (1999) predict that "by 2003, 60 percent of large enterprises and 30 percent of midsize enterprises will adopt a balanced set of metrics to guide business-oriented IT decisions (0.7 probability)."

IT balanced scorecard

Figure 1 shows a standard IT balanced scorecard. The *User Orientation* perspective represents the user evaluation of IT. The *Operational Excellence* perspective represents the IT processes employed to develop and deliver the applications. The *Future Orientation* perspective represents the human and technology resources needed by IT to deliver its services. The *Business Contribution* perspective captures the business value of the IT investments.

Each of these perspectives has to be translated into corresponding metrics and measures that assess the current situation. These assessments have to be repeated periodically and have to be confronted with goals that have to

Figure 1 — Standard IT balanced scorecard

USER ORIENTATION

How do users view the IT department?

Mission

to be the preferred supplier of information systems

Strategies

- preferred supplier of applications
- preferred supplier of operations
- vs. proposer of best solution, from whatever source
- partnership with users
- user satisfaction

OPERATIONAL EXCELLENCE

How effective and efficient are the IT processes?

Mission

to deliver effective and efficient IT applications and services

Strategies

- efficient and effective developments
- efficient and effective operations

BUSINESS CONTRIBUTION

How does management view the IT department?

Mission

to obtain a reasonable business contribution of IT investments

Strategies

- control of IT expenses
- business value of IT projects
- provide new business capabilities

FUTURE ORIENTATION

How well is IT positioned to meet future needs?

Mission

to develop opportunities to answer future challenges

Strategies

- training and education of IT staff
- expertise of IT staff
- research into emerging technologies
- age of application portfolio

Figure 2 — Standard IT balanced scorecard

IF

IT employee's expertise is improved (future orientation)

THEN

this may result in a better quality of developed systems (operational excellence)

THEN

this may meet better user expectations (user orientation)

THEN

this may enhance the support of business processes (business contribution)

be set beforehand and with benchmarking figures. Very essential is that within an IT BSC the cause-and-effect relationships are established and the connections between the two types of measures, outcome measures and performance drivers, are clarified. A well built IT scorecard needs a good mix of these two types of measures. Outcome measures such as programmers' productivity (e.g., *number of function points per person per month*) without performance drivers such as IT staff education (e.g., *number of educational days per person per year*) do not communicate how the outcomes are to be achieved. And performance drivers without outcome measures may lead to significant investment without a measurement whether this strategy is effective. These cause-and-effect relationships have to be defined throughout the whole scorecard (Figure 2): more and better education of IT staff (future perspective) is an enabler (performance driver) for a better quality of developed systems (operational excellence perspective) that in turn is an enabler for increased user satisfaction (user perspective) that eventually must lead to a higher business value of IT (business contribution perspective).

Relationship between the Business scorecard and IT scorecards

The proposed standard IT BSC links with business through the business contribution perspective. The relationship between IT and business can be more explicitly expressed through a cascade of balanced scorecards (see also Van der Zee, 1999). In Figure 3 the relationship between IT scorecards and the business scorecard is illustrated. The IT Development BSC and the IT Operational BSC both are enablers of the IT Strategic BSC that in turn is the enabler of the Business BSC. This cascade of scorecards becomes a linked set of measures that will be instrumental in aligning IT and business strategy and that will help to determine how business value is created through IT.

Figure 4 applies the concept of the cascade of scorecards to a bank.

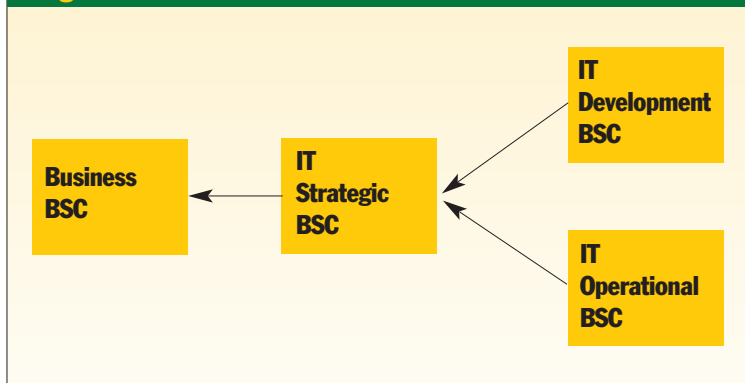
IT balanced scorecard and IT governance

A summarizing question is: how does the IT balanced scorecard satisfy IT governance? In other words, how does the IT balanced scorecard answer the three IT governance questions?

The proposed cascade of balanced scorecards fuses business and IT and in this way supports the IT governance process. The example of Figure 4 illustrates that IT is fully involved in the (new) business processes of the bank. The Business BSC shows a marketing strategy of reaching more and new customers through alternative distribution channels. The alignment IT/business process and the IT governance process is shown in the IT Strategic BSC and the IT Development BSC: the web site technology is chosen and a rapid web site development approach is to be applied. The different balanced scorecards drive the business and IT strategies on measurement and follow-up. In this way, there is assurance (or no assurance) that the IT organization returns some business value and does not invest in bad projects, and the adequacy of IT control mechanisms. The scorecards may also uncover major problems. It may be possible that the Board of Directors of a bank decides to go for web banking and that its IT organization is not at all acquainted with this technology as delineated by its IT Development BSC.

IT governance also means that control mechanisms are to be provided to top management (question 3). The Standard IT BSC of Figure 1 is a good illustration of how this control question can be answered. The scorecard provides the Board with crucial control measures on IT expenses, user satisfaction, efficiency of development and operations, expertise of IT staff and may compare these measures with benchmarking figures. This avoids that IT reporting within the Board is restricted to technical matters such as the selection of a new telecommunication network and assures that inhibitors for new business strategies can be detected and be acted upon as depicted in the web banking example.

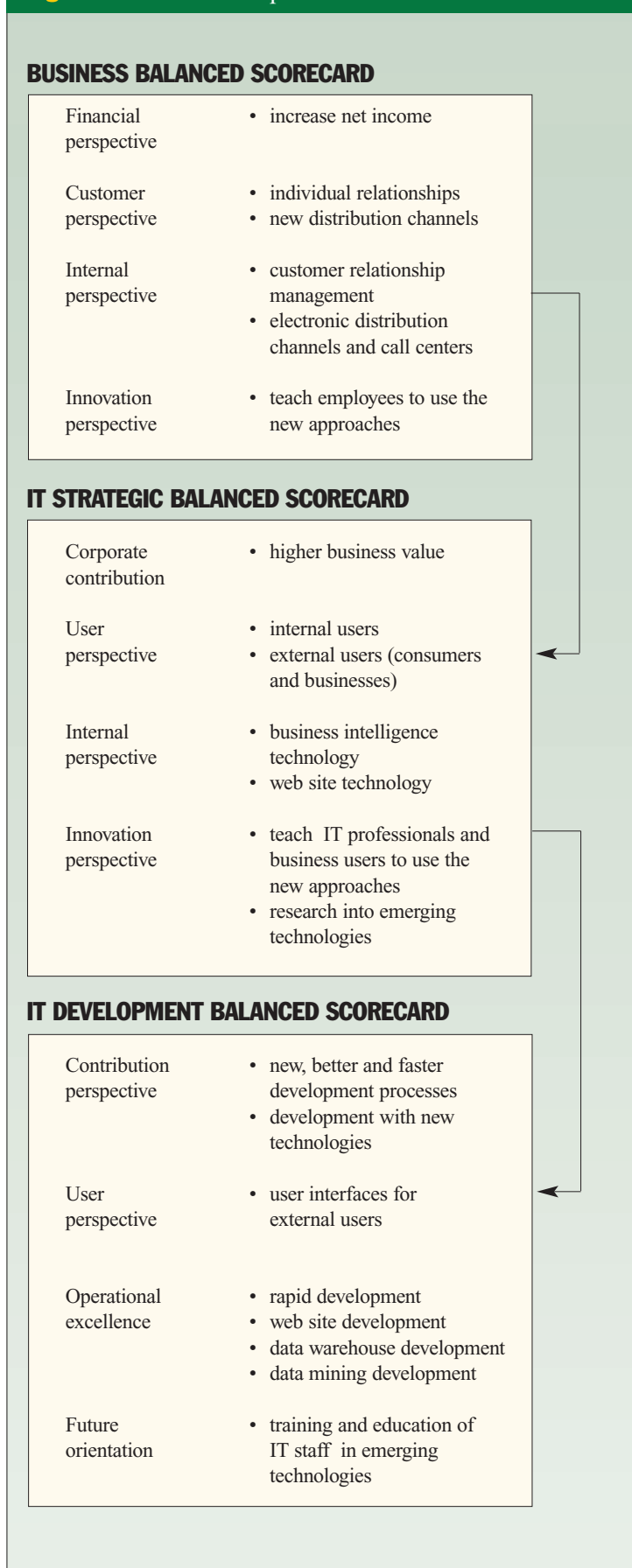
Figure 3 — Balanced scorecard cascade



Summary

IT governance is part of corporate governance and has to provide the organizational structures to enable the creation of business value through IT, the assurance that there are no IT investments in bad projects and that there are adequate IT control mechanisms. The methodology of the Balanced Scorecard is a measurement and management system that is very suitable for supporting the IT governance process and the IT/business alignment process. It is believed that in the near future many organizations will use a cascade of a business balanced scorecard and IT balanced scorecards as a way of assuring IT governance and achieving the integration of business and IT decisions. ■

Figure 4 — Bank example of a cascade of scorecards



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In the information economy, successful enterprises integrate information technology (IT) and business strategies, culture and ethics in order to attain business objectives, optimize information value and capitalize on technologies. Extended enterprises, which incorporate customers, business partners, vendors, stakeholders and constituents, rely on the efficient and effective sharing of information, including goals/expectations, status and ultimately knowledge. Making this happen at all is mission-critical to most enterprises...and making it happen as it *should* happen requires IT governance.

IT governance is a structure of relationships and processes to direct and control the enterprise in order to achieve the enterprise's goals by adding value while balancing risk versus return over IT and its processes. The relationships are between management and its governing body. The processes cover setting objectives, giving direction on how to attain them and measuring performance.

In 1998, the Information Systems Audit and Control Association® and its affiliated Foundation established the IT Governance Institute (ITGI) to address this increasingly critical concept. The ITGI strives to assist enterprise leadership in ensuring long-term, sustainable enterprise success and increased stakeholder value by expanding awareness of the need for and benefits of effective IT governance. The Institute develops and advances awareness of the vital link between IT and enterprise governance, and offers best practice guidance on the management of IT-related risks. For more information about the ITGI and the concept of IT governance, visit the IT Governance Portal web site at www.ITgovernance.org.



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